

## **ABSTRACT**

Compensation is provided for bending of an optical fiber in intensity-based optical measuring systems. A measuring signal and a reference signal of different wavelengths are generated and transmitted through an optical connection towards a sensor element. The reference signal is not influenced in the sensor element. The measuring and reference signals are detected and compensation is carried out for bending of the optical connection using correction data. The correction data is based upon pre-store data concerning the relationship between the measured reference signal and the measured measuring signal as a function of the bending influence on the optical connection. Devices and methods according to the invention allow for measurements with an optical pressure measuring system that exhibit effective compensation for any bending of the optical connection.